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Cc: Zito, Kelly[ZITO.KELLY@EPA.GOV]; Mogharabi, Nahal[MOGHARABI.NAHAL@EPA.GOV]
From: Skadowski, Suzanne
Sent: Wed 3/11/2015 6:08:05 PM
Subject: FW: EPA letter DOGGR and re cyclic steam injection (response to AP inquiry)

FYI.

The Calif. Senate UICs report that the reporter references notes the fracture pressure issue on pgs 13-14 in its summary of the 2014 GAO UICs report.

Yesterday's state oversight hearing agenda, documents and video recording are online:
<http://sntr.senate.ca.gov/2014informationaloversighthearings>

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From: Skadowski, Suzanne
Sent: Wednesday, March 11, 2015 10:57 AM
To: 'Knickmeyer, Ellen'
Subject: RE: EPA letter DOGGR and re cyclic steam injection

Hi Ellen,

Thanks again for your patience. Below is EPA's current view of cyclic steam injection in California and as it relates to our ongoing review of DOGGR's UIC Class II program. Please attribute this information and statement to "U.S. EPA" and please do not quote me directly.
Thanks.

What are cyclic steam injection wells and how are they regulated?

Cyclic steam injection wells are a type of enhanced oil recovery well that uses alternating phases of steam injection and oil production from the same well. Cyclic steam wells inject into hydrocarbon-bearing formations to recover oil that is very viscous. The steam is used to heat the oil to make it flow more freely into the wellbore, then the oil is brought to the surface. There are several thousand cyclic steam wells in California and they are regulated by the California Division of Oil, Gas, and Geothermal Resources (DOGGR) as Class II Underground Injection Control (UIC) wells.

From discussion with DOGGR, EPA understands that some cyclic steam wells inject fluids above fracture pressure. EPA's Safe Drinking Water Act (SDWA) UIC regulations stipulate that injection into Class II wells may not initiate new fractures or propagate existing fractures in the confining zone adjacent to Underground Sources of Drinking Water (USDW) [40 CFR part 146.23(a)(1)], however, the regulations do not prohibit injection into Class II wells above fracture pressure within the injection/production zone.

As with other Class II wells in California, cyclic steam wells would require approval of an aquifer exemption by EPA if the oil-bearing formation they inject into is an aquifer with total dissolved solids (TDS) levels below 10,000 mg/L (ppm). As EPA noted in our March 9, 2015 letter, the State did not include a specific accounting of cyclic steam wells in its "Breakdown of Wells Potentially Injecting into Non-Exempt USDW Zones" (Enclosure B of the State's February 6, 2015 letter to EPA). Thus, EPA is now requiring the State to update Enclosure B by May 15, 2015 to include cyclic steam wells, and provide a schedule for completing the State's review of these wells and bringing them into compliance by February 15, 2017.

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From: Knickmeyer, Ellen [<mailto:EKnickmeyer@epa.gov>]

Sent: Tuesday, March 10, 2015 3:31 PM

To: Skadowski, Suzanne

Subject: RE: EPA letter-DOGGR

Hi, Suzanne,

Just to clarify on the cyclic steam – the state Legislature’s report said the fact that cyclic steam injection was being done at a pressure that broke rock formations made it a violation of state and federal regulation (which regulations)? The Center for Biological Diversity suggested to me that that is allowed legally if it is classified as fracking, but not allowed if it remains classified as simply cyclic steam injection/EOR.

I’m asking if the process as it’s being done is indeed in violation of federal regulation (what regulation?) and if it’s a concern. I see some reference to cyclic steam injection in yesterday’s EPA letter but not clear.

Thanks much

Ellen

From: Skadowski, Suzanne [<mailto:Skadowski.Suzanne@epa.gov>]
Sent: Tuesday, March 10, 2015 12:15 PM
To: Knickmeyer, Ellen
Subject: RE: EPA letter-DOGGR

Hi Ellen,

Our letter to the state is attached. We are still working on a response to your inquiry from yesterday. Thanks.

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From: Knickmeyer, Ellen [<mailto:EKnickmeyer@epa.gov>]
Sent: Tuesday, March 10, 2015 11:01 AM
To: Skadowski, Suzanne

Subject: EPA letter-DOGGR

Hi, Suzanne _ DOGGR says EPA sent a response to DOGGR's proposed plan re the UIC wells – can you please send along that letter? Anything else I should know re that?

Thanks much,

Ellen